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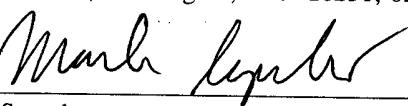
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Joseph C. Olson et al.
Serial No: 09/826,274
Confirmation No: 2953
Filed: April 4, 2001
For: CATHODE ASSEMBLY FOR INDIRECTLY HEATED
CATHODE ION SOURCE
Examiner: Dalei Dong
Art Unit: 2875

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

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Mark Superko

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Washington, D.C. 20231

Sir:

AMENDMENT

In response to the Office Action mailed September 12, 2002, please amend the above-identified application as follows.

In the Claims

Please amend claims 9-13, 15, 16 and 18 to read as follows. Marked-up copies of the amended claims, with changes indicated by bracketing and underlining, are enclosed.

9. (As amended) A cathode sub-assembly for use in an indirectly heated cathode ion source which includes an arc chamber housing that defines an arc chamber, comprising:

a cathode sub-assembly, including a cathode and a support rod fixedly mounted thereto; a filament for emitting electrons, that is positioned outside the arc chamber in close proximity to the support rod of the cathode sub-assembly; and

a cathode insulator for electrically and thermally isolating the cathode from an arc chamber housing, that is disposed around the cathode of the cathode sub-assembly.